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July 18, 2006

Mr. Chris Lichens
Remedial Project Manager
U.S. Environmental Project Manager Agency-Region IX
75 Hawthrone Street (SFD-7-4)
San Francisco, CA 94105

Re: Recommendations for Indoor Air Quality Sampling at Additional Buildings, Omega Chemical Superfund Site, Whittier, California.

Dear Mr. Lichens:

Enclosed is a Memorandum prepared by CDM on behalf of the Omega Chemical Site PRP Organized Group (OPOG) that summarizes the results of the HVAC and Chemical Usage Inventory (CUI) evaluation, and provides recommendations for Indoor Air Quality Sampling at Additional Buildings. The HVAC/CUI evaluation was conducted on June 19, 2006.

The enclosed Memorandum has been prepared to address EPA comments regarding indoor air sampling dated May 15, 2006.

Should you have any questions, regarding the above, please contact me.

Sincerely,
Omega Chemical Site PRP Group

Edward Modiano
Project Coordinator

Cc: Tom Perina, CH2MHILL
Dave Chamberlin, CDM
Lori Parness, DTSC

CDM

Memorandum

To: *Chris Lichens, USEPA*

From: *Dave Chamberlin, CDM*

Sharon Wallin, CDM

Date: *July 18, 2005*

Subject: *HVAC Evaluation and Chemical Use Inventory Results and Proposed Indoor Air Quality Sampling Locations*

Background

In correspondence dated May 15, 2006, USEPA requested OPOG perform additional indoor air quality (IAQ) sampling as part of the On-Site Soils RI/FS. During the week of June 5th, CDM staff contacted the business owners/owner's representative of the following four businesses for access to perform the proposed sampling:

- Oncology Care Medical Associates (12535 E. Washington Blvd.)
- Bishop Co. (12519 E. Putnam Street)
- LA Cart's M.F.G. COMP. (12549 E. Washington Blvd.)
- Medlin & Son (12476 E. Whittier Blvd.)

On June 9th, CDM staff visited each of the four properties to meet with facility representatives, obtain preliminary information on the layout of the various buildings, take photographs of the building interiors and exteriors, and perform a cursory evaluation of facility Heating, Ventilation, and Air Conditioning (HVAC) systems and potential sample locations. The locations of the four building are shown on Figure 1.

A scope of work for the proposed sampling was developed and transmitted to USEPA for review on June 13th. The scope of work included a chemical use inventory (Task 1), an evaluation of the HVAC system at each property (Task 2), and data evaluation and reporting (Task 3).

Findings

The HVAC evaluation and chemical inventory were performed on June 19th, in accordance with Tasks 1 and 2 of the SOW. The HVAC evaluation was performed by a CDM HVAC specialist, and the chemical inventory was performed by a Certified Industrial Hygienist (CIH) under subcontract to CDM. The findings of both the HVAC evaluation and the chemical inventory are discussed below. The HVAC and chemical inventory reports are provided in Attachment A.

LA Carts

LA Carts manufactures portable food carts, most of which are fabricated from stainless steel sheeting. The LA Carts property is occupied by a 2,000 square foot, one-level building and exterior lot (see Attachment A, Figure 1). There is also a smaller (1,500 square feet) shop building in the rear of the property which is open and does not have any doors. The front of the larger building contains two small offices and a reception area. The rear fabrication area comprises the majority of the building. Two large roll-up doors at the rear of the fabrication area were open to the outside, and appeared inoperable. The food carts are assembled in the exterior paved lot.

The HVAC evaluation revealed that the offices and reception area are the only areas with AC. The unit is roof-mounted, approximately 11 years old, and near the end of it's service life. The AC unit does not draw outside air, it only chills and re-circulates interior air. The fabrication area does not have an AC unit; ventilation air is provided by the two roll-up doors which appear to remain open during working hours.

The chemical survey noted VOC-containing materials consisted of propane, hydraulic oil, and aerosol paint cans. According to the business owner, painting is reportedly very limited. During the assessment, no obvious soil gas pathways into the building's occupied spaces were observed.

Although the HVAC system for the office and reception area do not allow intake with outside air, and there is no AC unit for the fabrication area, the ventilation provided by the open doors may provide substantial air turnover. Therefore, it is proposed to collect two samples from the LA Carts building, with one sample placed in the interior office (office no. 2) on a desk or counter top, and a second sample placed in the fabrication area. LA Carts staff will be

questioned prior to and after sampling to evaluate the use of spray paints in the fabrication area during sampling.

Oncology Care Medical Associates

Oncology Care is housed in a 3,720 square foot, U-shaped, one level building, with an exterior paved parking lot. The building has a reception/waiting area in the front, with offices, examination rooms, a medicine storage/mixing room, and treatment room occupying the remainder of the building (see Attachment A, Figure 2).

The HVAC evaluation revealed three AC units on the roof. The units appeared to be fairly new, and did have intakes allowing outside air to be drawn into the building. The medicine storage/mixing room contains two fume hoods for mixing medicines. One fume hood is reportedly used for sterile mixing of sterile medicines, and has a filter and UV system. The second (and larger) fume hood reportedly also has a filter which is changed every six months. The larger fume hood apparently discharges fumes from the top of the unit to the indoor air. The HVAC and CIH specialists could not find any evidence that the larger fume hood was vented to outside air. Though not familiar with the manufacturer's recommendations for that particular model, the CIH recommended to the Oncology representative that the fume hood should be vented, either to the plenum space between the ceiling and the roof, or to the outside air via a roof or wall vent. There is a concern that the venting of the fume hood to the indoor air has impacted the indoor air quality of the building, however, as the chemicals being mixed are reportedly water-based and do not contain volatile organics, this is not expected to negatively impact the proposed sampling.

The chemical survey noted an obvious isopropyl alcohol (IPA) odor, resulting from the use of IPA swabs for surface disinfecting. After use, the swabs are placed in open waste baskets. Therefore, IPA would be detected in IAQ samples collected from the building. During the assessment, no obvious soil gas pathways into the building's occupied spaces were observed.

Overall, the existing HVAC system appears to provide air turnover in the building, such that IAQ samples would be representative of actual working conditions with appropriate building ventilation. Therefore, it is proposed to collect two samples from the interior of the building, one in the treatment room and one in the administration office, which is frequently unoccupied. One sample will also be collected from the roof adjacent to one of the intake vents. This sample will be used to characterize ambient, outdoor air concentrations at this location.

Bishop Co.

The Bishop Co. facility consists of a medium-sized two story building and a large warehouse (see Attachment A, Figures 3, 4, and 5). The two-story building houses a reception area and office space on the ground floor, with individual offices and a break room on the second floor. Within the warehouse is a self-contained sales room (approximately 1,600 square feet), complete with ceiling and AC unit. The AC unit servicing the sales room is approximately 15 years old and near the end of it's service life. It re-circulates chilled air, and does not have an intake for outside air. There is a fairly new AC unit on the roof of the two-story office, which also does not have an outside air intake.

The warehouse occupies approximately 75% of the total 8,000 square foot building and is used primarily for product storage. The warehouse has a heating unit, but does not have an AC unit. Passive roof ventilators were observed in the roof of the warehouse. During normal working hours, the large rollup doors in the front and rear of the warehouse are left open, with the doors to the sales room closed.

The chemical survey noted that Bishop stocks and sells a lot of plastic, rubber, and nylon products that typically off-gas VOCs and phthalates. A small area in the rear of the warehouse is used for equipment repair, and small, open containers of gasoline, oil, solvents, greases, etc. were noted under a workbench. IAQ samples will likely contain volatile organics common to rubber and plastic products and the materials present under the workbench. During the assessment, no obvious soil gas pathways into the building's occupied spaces were observed.

Because of the absence of an intake for outside air in the reception/office area and sales room, it is unlikely that air turnover occurs in these areas. Therefore, OPOG proposes to modify or install AC units that rely on outside air intake for these two locations. Within approximately one week after installation of these units, three interior samples are recommended for the Bishop facility, one in the ground floor in the reception/office area on top of a desk or counter top, one in the warehouse, and one in the sales room. A duplicate will also be collected from the reception/office area. A canister will also be placed on the roof of the two-story office building, adjacent to the intake vent to characterize outdoor air concentrations at the location. A second ambient air sample will be collected from ground level at this property. The summa canister will be attached to the chain link fence which separates the rear of the property from Skateland.

Medlin & Son

The Medlin & Son building consists of a one-level, approximately 3,000 square foot building which contains a laser operated metal cutting machine, laser gases, and miscellaneous

shelving for various metal stock (see Attachment A, Figure 6). A large covered shed is attached to the rear of the building. There are several small interior offices that are used for storage. An AC unit was observed for these interior offices, however, the unit is very old and was not in working condition. These interior offices will reportedly soon be demolished and removed. During normal working hours, the large rollup door to the building is left open. There is no ceiling in the building, it is open to the rafters and there are ridge vents at the peak.

The chemical survey noted six compressed gas cylinders (oxygen, nitrogen-oxygen-hydrogen, and nitrogen) and a five-gallon bucket of hydraulic oil. During the assessment, no obvious soil gas pathways into the building's occupied spaces were observed.

As discussed in a prior memorandum to EPA (CDM, June 30, 2006), the collection of IAQ samples from the Medlin building will not be performed based on evaluation of the soil gas sampling results from a vapor boring placed adjacent to the building.

Summary

As discussed above, the following samples will be collected:

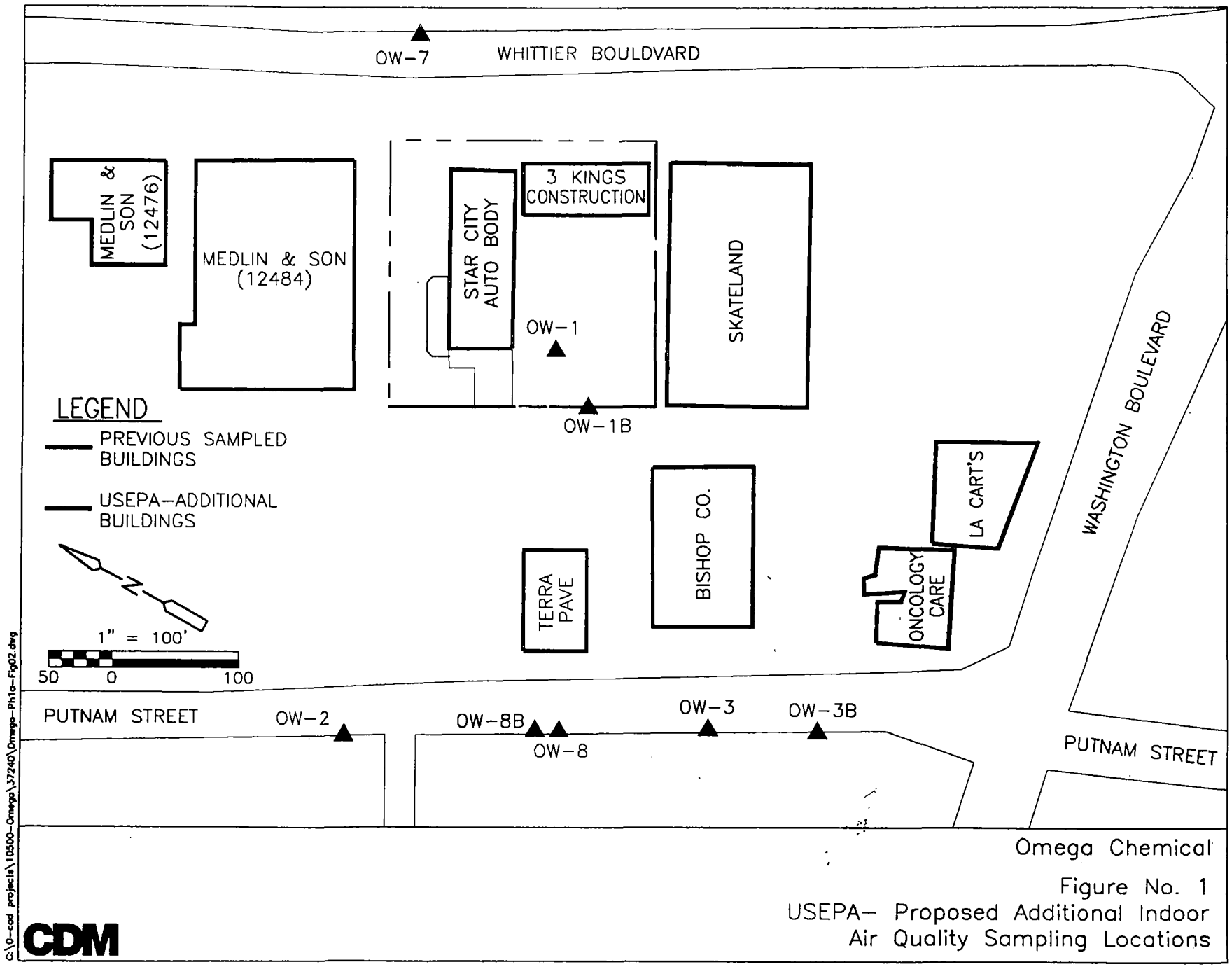
- LA Carts - one interior sample from the office, and one interior sample from the fabrication area.
- Oncology Care - two interior samples (treatment room and unused office or other out-of-the way area), and one rooftop ambient air sample
- Bishop Co. - after modification of the existing system or installation of new HVAC units, four interior samples from three locations (sample and duplicate from reception/office area, one sample from the warehouse, and one sample from the sales room), one rooftop ambient air sample, and one ground level ambient sample from the rear of the property
- Medlin & Son - no samples are proposed for this building

In summary, a total of 11 samples (8 IAQ [includes 1 duplicate] and 3 ambient air samples) will be collected over an approximate 8-hour period. A trip blank will also accompany sample shipment from/to the laboratory. All samples will be analyzed for TO15-SIM, and the analyte list will be the same as the previously sampled buildings (i.e., Star City, Skateland, Terra Pave, etc.).

CDM will contact all four business representatives to set up a walk-through with EPA to evaluate the specific locations proposed for sampling, and to verify that the proposed locations are acceptable to the various representatives. Oncology Care representatives, for example, have expressed concern regarding the "visual impact" our sampling will have on their patients and workers, and have requested that sampling be performed on a Friday when there are a minimal number of patients.

During sampling at LA Carts, the windows to the office and the roll-up doors to the fabrication area will remain open, to allow for adequate ventilation. New HVAC units will be installed or the existing system modified to address the deficiencies noted at Bishop Co. prior to sampling, pending approval from the business owner. The roll-up doors to the warehouse will also remain open during sampling. Deficiencies noted at Oncology Care associated with the fume hoods are not anticipated to negatively impact the IAQ samples, therefore, no improvements will be implemented at this building prior to sampling.

Pending concurrence by the owner, OPOG anticipates completion of the HVAC unit installation at Bishop Co. in early August. Collection of the IAQ samples, as described herein, would occur during mid-August.


OW-7
WHITTIER BOULDVARD
MEDLIN & SON (12476)
MEDLIN & SON (12484)
STAR CITY AUTO BODY
3 KINGS CONSTRUCTION
SKATELAND
OW-1
OW-1B
WASHINGTON BOULEVARD
LEGEND
PREVIOUS SAMPLED BUILDINGS
USEPA-ADDITIONAL BUILDINGS
1" = 100'
50 0 100
TERRA PAVE
BISHOP CO.
LA CART'S
ONCOLOGY CARE
PUTNAM STREET
OW-2
OW-8B
OW-8
OW-3
OW-3B
PUTNAM STREET
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CDM
Omega Chemical
Figure No. 1
USEPA- Proposed Additional Indoor
Air Quality Sampling Locations

ATTACHMENT A
HVAC AND CHEMICAL USAGE INVENTORY REPORTS

CDM

MEMORANDUM

To: *Ed Modiano, OPOG Project Coordinator*

From: *Sherwin Mendoza, P.E.*
Sharon Wallin, P.G.

Subject: *Omega Facilities - HVAC Evaluation*
10500-37240-T2.OSS.IAQ2

Date: *July 7, 2006*

OVERVIEW

The purpose of this memorandum is to provide the results of the heating ventilating and air conditioning (HVAC) systems evaluation performed at several properties in the vicinity of the Omega Chemical Superfund Site (LA Carts, Oncology Care, Bishop Co., and Medlin & Son) in Whittier, California. Deficiencies noted at all four properties, as described below, may contribute to indoor air pollutants.

DESCRIPTION OF FACILITIES

1. LA Carts

The LA Carts building consists of small office and reception areas in the front of the building, hallway and storage areas in the center of the building, and a fabrication workshop area in the rear of the building (Figure No. 1). The structure is a 2,000 gross square foot slab on grade building with a flat roof. The Offices and Reception area in front of the building is separated by a door from the center hallway. The center hallway is open to the workshop area. The workshop area in the rear of the building comprises approximately two-thirds of the building.

A summary of each room area (approximate square feet) follows:

Office #1	140
Reception	220
Office #2	140
Storage #1	50
Restroom	50
Storage #2	50

Storage #3	115
Workshop Area/Hallway	1230

Existing HVAC System Description

This section describes the existing HVAC systems for each space.

HVAC for the Offices/Reception area in Front of the Building is provided by a rooftop packaged air conditioning system. The packaged unit provides cooling and heating to the area. No outside air is provided through the rooftop unit. The roof mounted unit appears to be over 11 years old. The equipment is approaching the end of its economic life of 15 years, which is the standard life expectancy for units of this type. The unit is controlled by a wall-mounted thermostat in the Reception area.

An HVAC unit is not provided for the Storage and Hallway areas in the Middle of the building. The toilet room has an exhaust fan which is controlled by the light switch. The Hallway area in the middle of the building is open to the Fabrication/Workshop area.

An HVAC unit is not provided for the Workshop/Welding area in the Rear of the Building. The shop area is used for fabricating carts and trailers with steel welding. There are two large roll-up doors in the rear of the shop area. During normal working hours, the large rollup doors are left open.

HVAC System Evaluation

The Rooftop AC unit serving the Offices/Reception areas of the building does not provide ventilation air through the unit. Since the unit appears to be over 11 years old, the outside air requirement for the area is likely based on the 1985 Uniform Building Code (UBC). The 1985 UBC classified the Offices/Reception space as a Group B Building Occupancy. The ventilation required in UBC Chapter 7, Section 705 states: "*...natural ventilation by means of exterior openings with an openable area not less than one twentieth of the total floor area of such portions, or shall be provided with artificial light and a mechanically operated ventilating system.*" Although the Rooftop Unit serving the Offices/Reception area does not have any outside air through the unit, it complies with the 1985 Code due to the adequate number of operable windows in front of the building exceeding the Code requirement. The windows were not open during the site visit.

The Workshop/Welding area of the building complies with the 1985 Building Code based on a Group B Division 2 Occupancy. The rear roll-up doors are kept open during normal working hours, satisfying the Code requirement of *"..openable area not less than one twentieth of the total floor area."*

2. Oncology Care

Oncology Care is an outpatient medical facility. It consists of Offices, Patient Rooms, Treatment Rooms, and Waiting Room (Figure No. 2). The structure is a 3,720 gross square foot slab on grade building with flat roof.

A summary of each room area (approximate square feet) follows:

Waiting room	485
Restroom	75
Front Office	235
Lab	75
Exam Room #1	125
Exam Room #2	120
Administration Office	100
Corridor #1	205
Exam Room #3	145
Exam Room #4	120
Exam Room #5	130
Billing Department	285
Corridor #2	190
Staff Lounge	220
Storage	65
Restroom	55
Doctors Office	155
Employee Restroom	70
Storage	55
Nurse Station	75
Corridor #3	155
Exam Room #6	95
Treatment Prep	100
Treatment Room	385

Existing HVAC System Description

There are three packaged AC units serving the Oncology Care building. The building is divided into three zones served by an AC unit for each zone. The units provide ventilation air to the space through the outside air intake hood at each unit. The units appeared to be fairly new. The units are controlled by a wall thermostat for each unit. The restrooms have exhaust fans and the fans are controlled by wall switches. The Treatment Prep room contains two medicine mixing hoods. The two mixing hoods are not vented to the outside. The hoods recirculate the contaminated air into the Treatment Prep room space.

HVAC System Evaluation

The building is operated with adequate ventilation as required by Code. The AC units provide ventilation air to the space through the packaged rooftop units. The Code required ventilation quantity is 15 CFM per person.

The recirculation of hood exhaust air into the space may negatively impact the indoor air quality of the building. If the medicine mixing hoods are vented to the outside, the outside airflow requirement through the AC Units for the building has to be increased. The additional outside air quantity will increase the load on the air conditioning equipment and will most likely require larger units.

3. Bishop Company

The Bishop Company consists of a two story office building and a large warehouse. The first floor of the two story office building is divided into Reception area, Restrooms, Storage and Computer/Server room (Figure 3). The second floor of the two story office building contains Offices and a Break room (Figure 4). The large warehouse contains an enclosed Sales/Store room. The Sales/Store room is approximately 1600 square feet. The large warehouse comprises approximately ¾ of the total 8000 square foot building and is primarily use for product storage.

Existing HVAC System Description

There are two packaged AC units and one Condensing Unit above the roof of the two-story office building. The two packaged units serve the two-story office building and appeared to be 7 to 10 years old. No outside air is provided for the two units. A wall-mounted thermostat controls the packaged units.

The condensing unit above the roof is operated with an Indoor Air Handler serving the Sales/Store room (Figure 5). The Indoor Air Handler serves the Sales/Store room and is located above the ceiling of the Storage/Restroom areas. No outside air ventilation is provided for the Air Handling unit. The split system unit serving the Sales/Store room is controlled by a wall-mounted thermostat. The split system unit is approximately 15 years old which is the economic life of the unit.

Heating and Ventilating for the large warehouse is provided by four roof ventilators and unit heaters. There are large roll-up doors in the front and the rear of the warehouse. The doors are normally kept open during working hours.

HVAC System Evaluation

The Rooftop AC units serving the two-story office building does not provide ventilation air through the unit. Because the system is approximately 7 to 10 years old, this is in violation of the 1985 California Building Code and Energy Codes.

The Sales Room/Store inside the Warehouse store does not comply with Code since the HVAC Unit serving the space does not have outside air and the store does not have operable windows to the outside.

The Warehouse appears to comply with the Code since the area was provided with roof ventilators and the front and rear roll up doors are left open.

4. Medlin & Son

The Medlin & Son building is approximately 3000 square feet (Figure 6). The Workshop area contains miscellaneous shelving and a laser machine for cutting metal. The building also has several storage areas, a restroom, and an Office.

Existing HVAC System Description

There is no HVAC provided for the workshop area. The large rollup door in the loading

dock is normally open. The AC unit serving the Miscellaneous Storage areas was not in working condition. The restroom has an exhaust fan and the fan is controlled by a wall switch. There is a package-through-the-wall AC serving only the Office area.

HVAC System Evaluation

The Workshop area of the building comply with the code based on a Group B Division 2 Occupancy. The building storage areas, restroom and Office do not comply with the Code since the AC unit is inoperable.

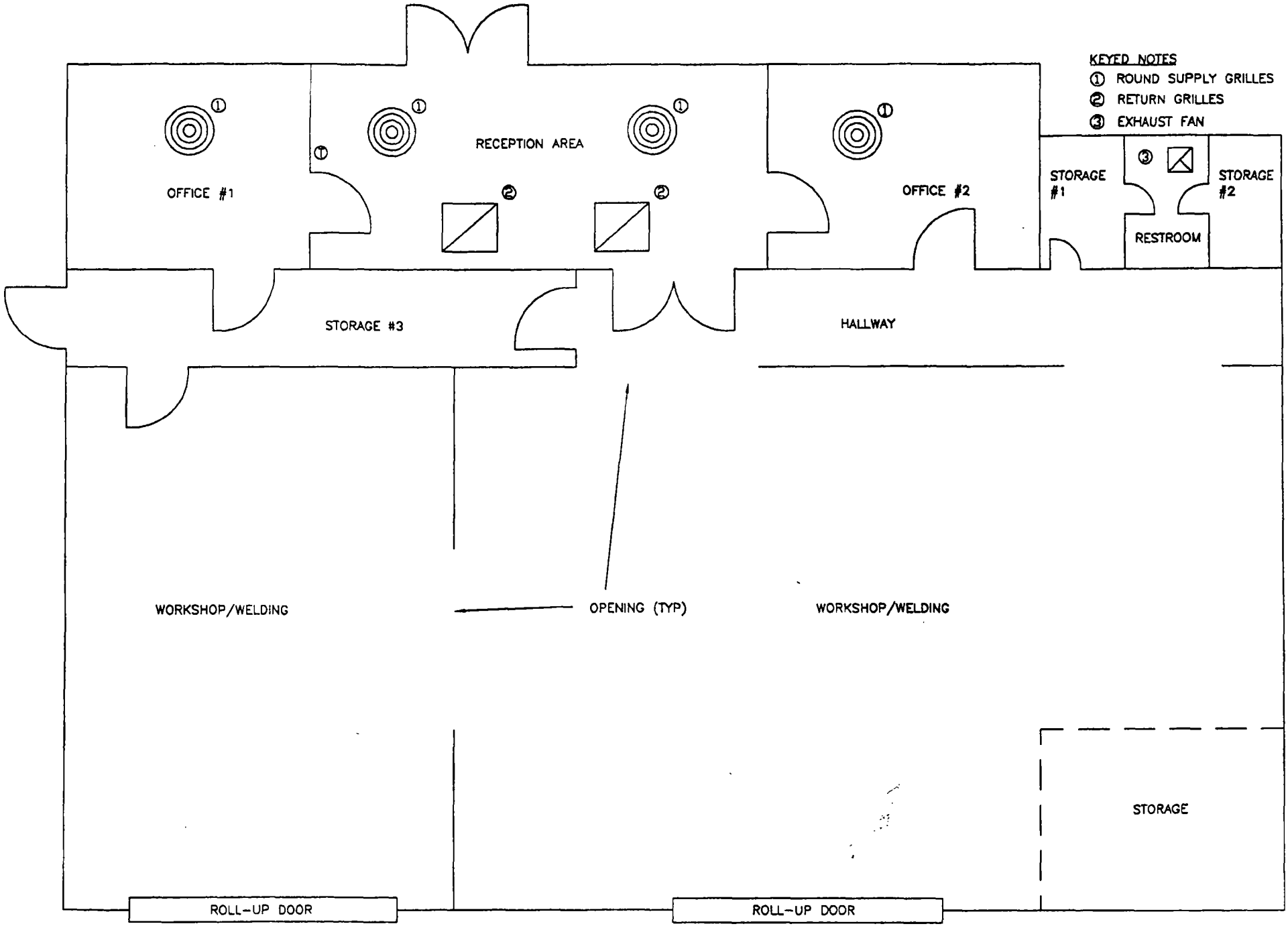
CONCLUSIONS AND RECOMMENDATIONS

LA Carts building - The Offices/Reception area of the building can be operated with adequate ventilation as required by Code by ensuring that the front windows are kept open for ventilation air. The Workshop/Welding area complies with Code by keeping the large roll-up doors open during working hours.

Oncology Care - The building complies with the requirement of the Code for ventilation air except for the medicine mixing hoods. An exhaust system for the mixing hoods and new AC unit should be to provided the equal the amount of outside air with the hood exhaust airflow.

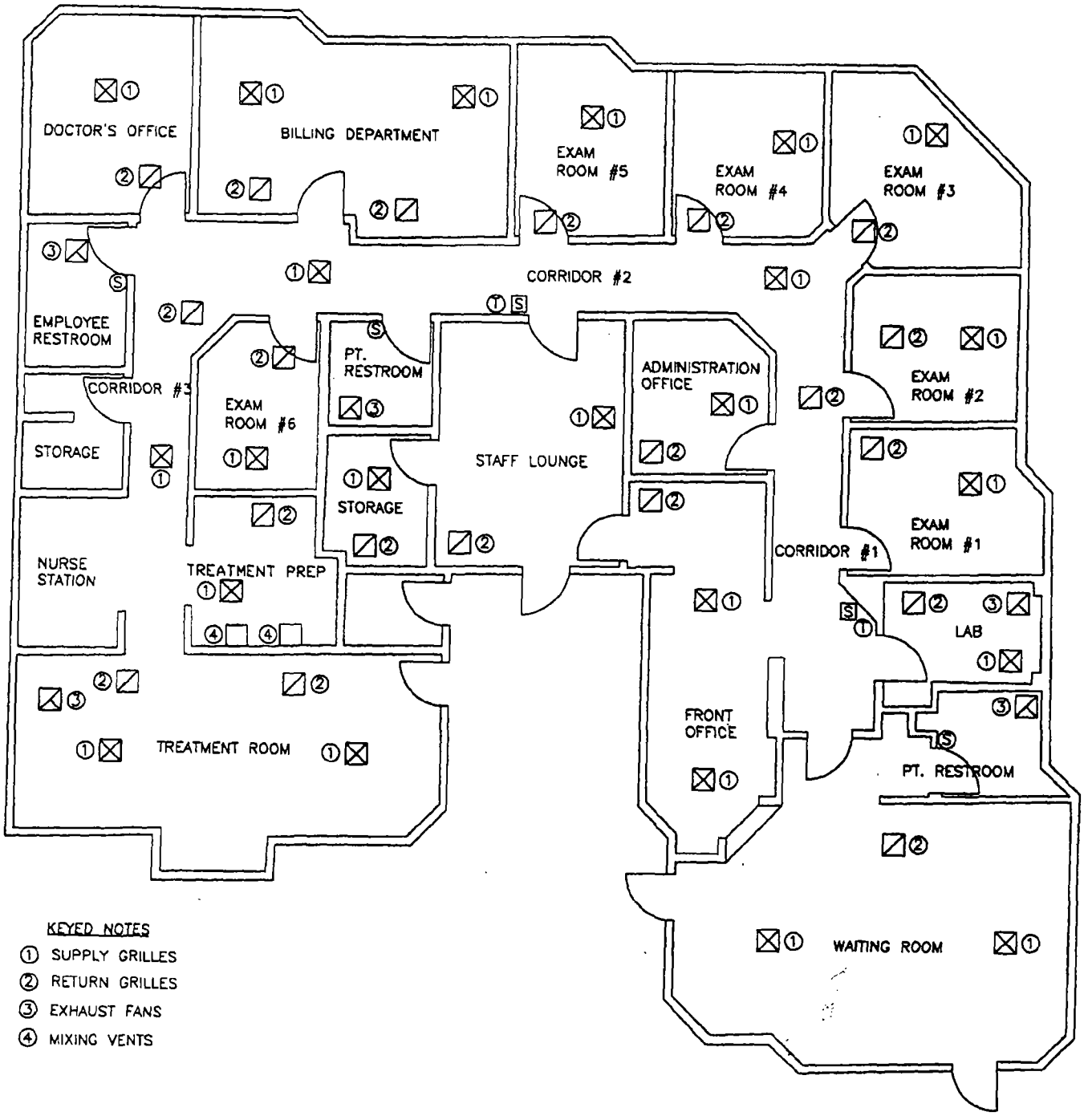
Bishop Company - The existing AC units should be replaced with new units to provide outside air through the unit as required by Code for the two-story office building. The split system unit serving the Sales Room should be replaced with a new unit sized to accommodate the required outside airflow. The new units should be equipped with an economizer cycle to use outdoor cooling whenever the outside temperature is cooler than the indoor temperature.

Medlin & Son - The Workshop/Welding area complies with Code by keeping the large roll-up door open during working hours. The AC unit serving the storage areas, restroom and Office should be replaced with an operable unit.



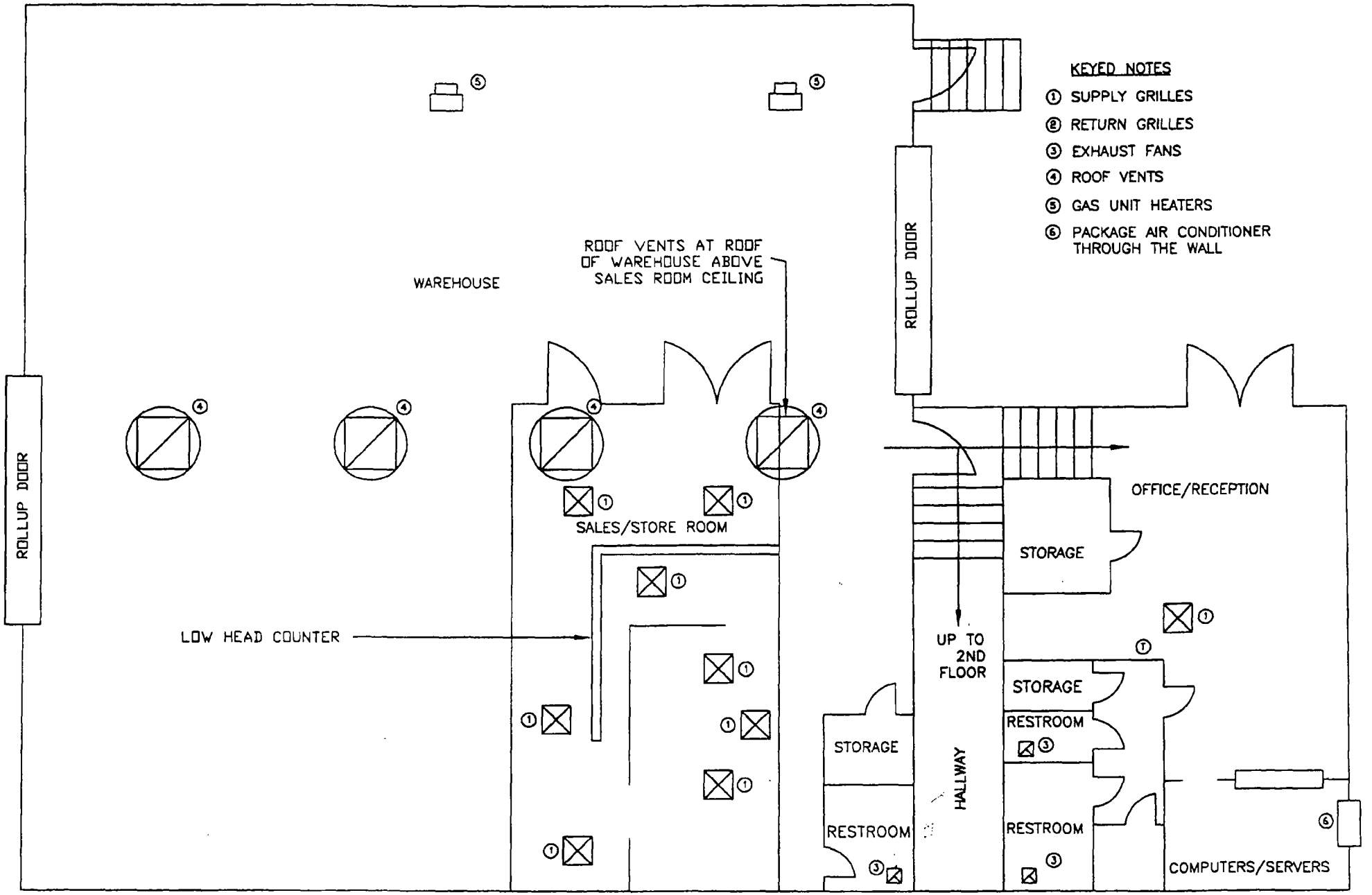
LA CARTS FLOOR PLAN
NTS

Figure No. 1
Floor Plan



ONCOLOGY CARE
NTS

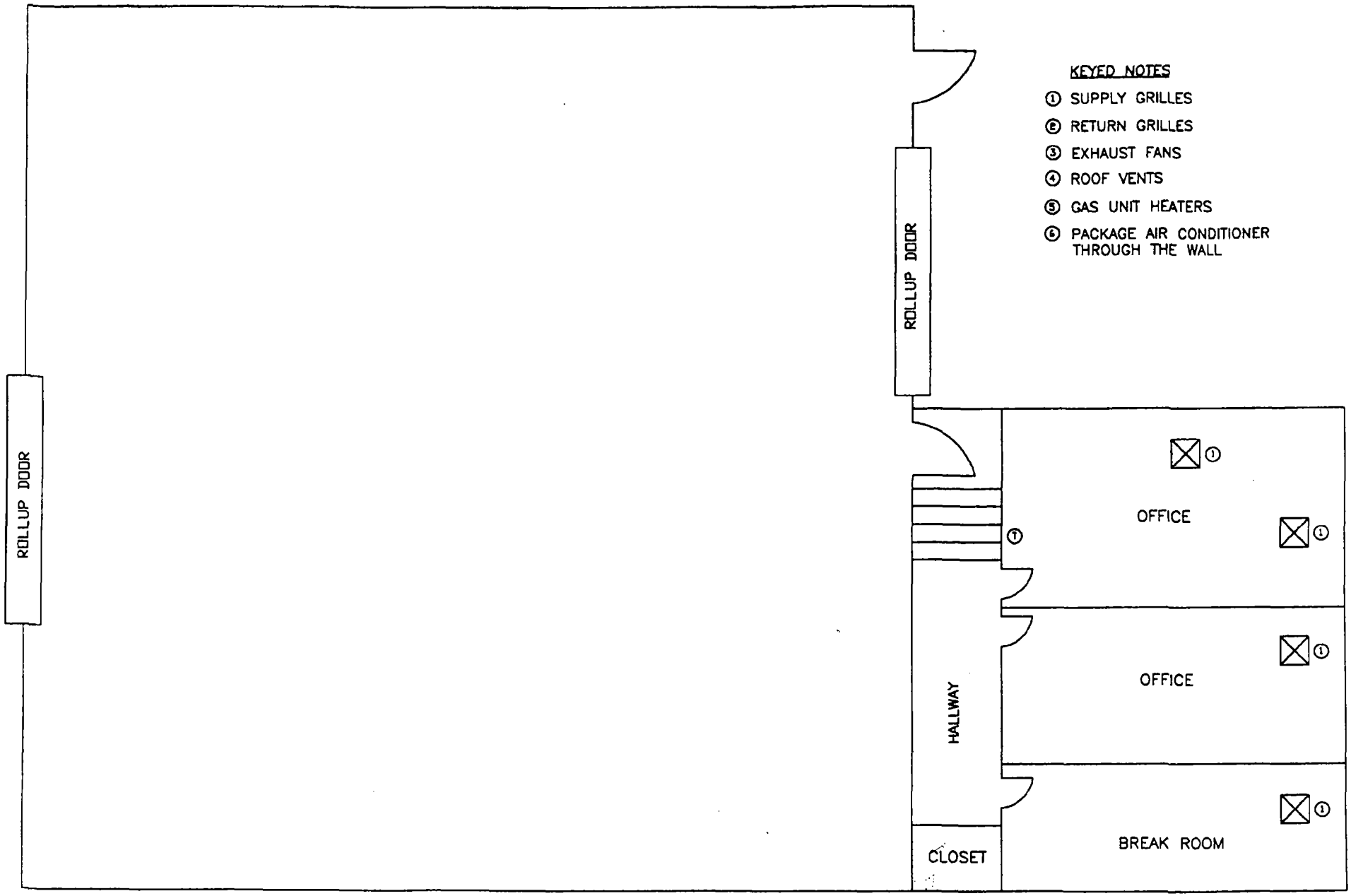
Figure No. 2
Floor Plan



BISHOP COMPANY FIRST FLOOR

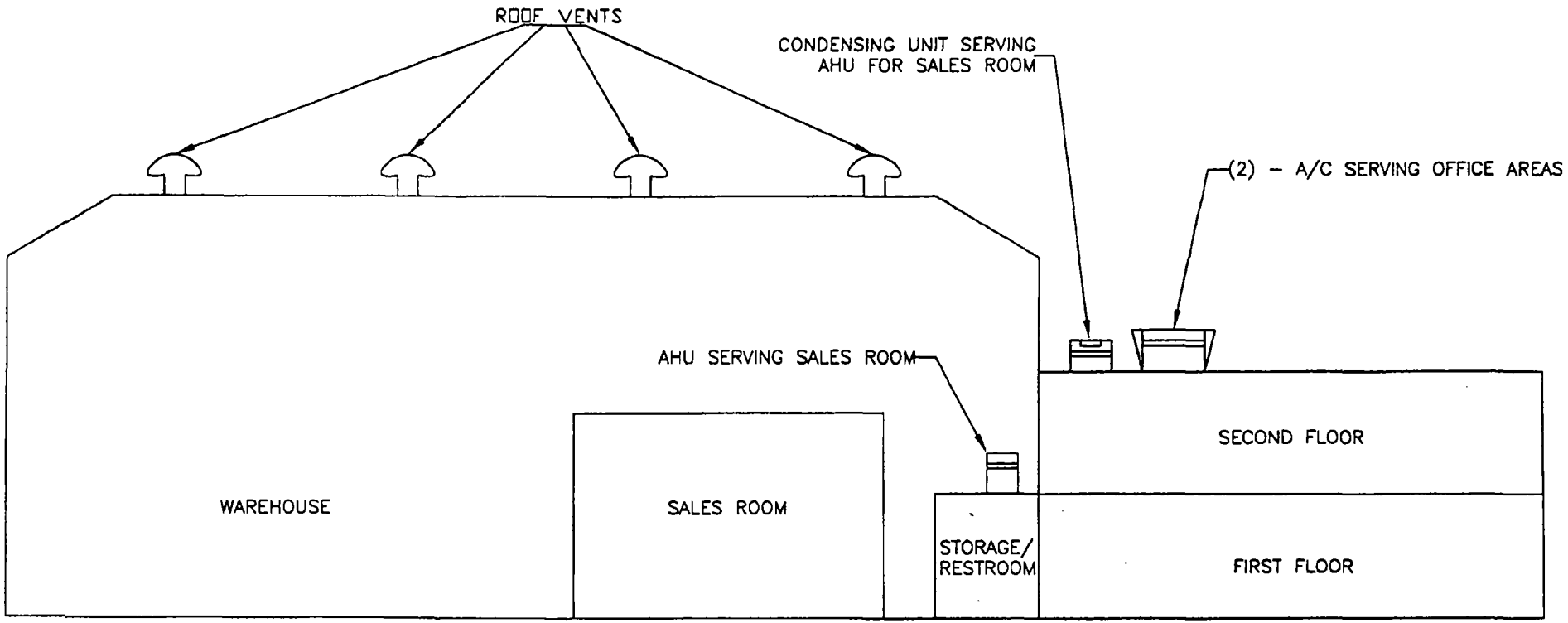
NTS

Figure No. 3
Floor Plan



BISHOP COMPANY SECOND FLOOR
NTS

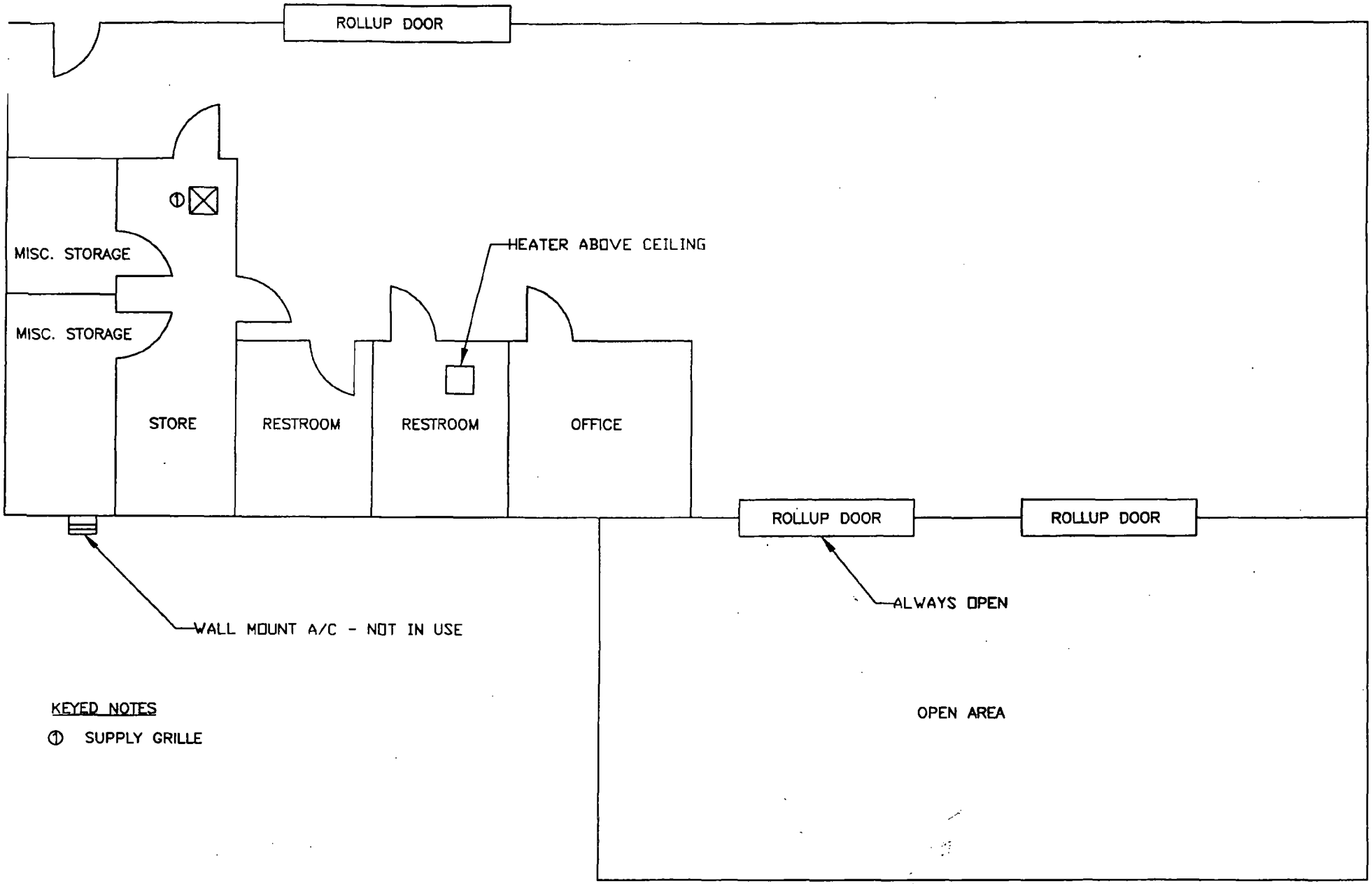
Figure No. 4
Floor Plan



BISHOP COMPANY SECTION VIEW

NTS

Figure No. 5
Section View



MEDLIN BUILDING
NTS

Figure No. 6
Floor Plan

KERNTEC Environmental
3703 Columbus Street
Bakersfield, California 93306
(661) 873-7277 P
(661) 872-3447 F

June 30, 2005
File No. 0106011.00

Ms. Sharon Wallin – Project Manager
CDM
18581 Teller Avenue, Suite 200
Irvine, California 92612

Subject: Report of Findings During an Assessment at the Omega Chemical Site, Located at Whittier and Washington Boulevards, Whittier, California

Dear Ms. Wallin:

KERNTEC Environmental (KERNTEC) is pleased to provide CDM with this report of findings, per your authorization, conducting four preliminary building assessments and chemical inventories therein. The four buildings where this preliminary assessment took place were:

- LA Carts – 12549 Washington Boulevard, Whittier, CA,
- Medlin & Son -12476 Whittier Boulevard, Whittier, CA,
- Bishop Co. - 12519 Putnam Street, Whittier, CA, and
- Oncology Care - 12535 Washington Boulevard, Whittier, CA.

The following narrative provides a description of KERNTEC's efforts.

Understanding

KERNTEC was requested to perform a general environmental assessment of chemical use and storage at the four sites in order to establish a baseline understanding of potential chemical vapors that many be indigenous to (or present in) each building, assist CDM staff during an assessment of ventilation systems therein, and provide a report of findings. The assessment was non-invasive, no sampling was performed, and only field notes and photographs were collected during the effort.

Environmental Assessment

KERNTEC physically inspected each building and access was provided by the building owner and/or manager. All four buildings were occupied and operating in, what appeared to be, a normal mode of operation during the assessment period. KERNTEC inventoried significant chemicals and those that may emit volatiles at each location and as identified by the owner/manager, discussed chemical use with the owner/manager and/or significant staff at each location, and recorded observations and findings on field notes – copies thereof are attached. It should be noted that small containers of cleaning and custodial products were observed in restrooms at each location. These are common retail products typically found in most restrooms and they were not inventoried.

LA Carts – This business manufactures portable food carts, most of which are fabricated from stainless steel sheeting. Steel welding, Plexiglas cutting, copper tube soldering, and painting of these materials are also performed in shop areas. LA Carts consists of two buildings. The front

(street facing) building is approximately 2,000-sq.ft. and is typical of a single-story, stick-framed building with a stucco/plaster exterior. This building is divided into a three-room front office area, a center hallway used for product storage and access to the restrooms, and a large shop area in back; approximately two-thirds of the building is the rear shop area. In the shop area, much of the metal forming, metal-brakes, and stainless welding takes place. Behind this building is another metal-framed building, approximately 1,500-sq.ft., where carts and trailers are fabricated, including (carbon) steel welding of trailer frames, assembling, and painting. At the time of inspection, the two large roll-up doors to the shop (on the front building) were open and it appeared that the doors could be not closed, i.e., it appeared that the doors are always open and one door looked inoperable. The shop building to the rear had no doors, i.e., it was an open building. The only conditioned space was the three-room office area; which was serviced by package units on the roof.

A chemical inventory was taken of products that were observed during the assessment – copies of the inventory are attached. Significant VOCs that may be present include propane, and chemicals present in cans of paint used in the rear shop building. However, it appears that the use of paint is very limited; less than 10 retail-sized cans of spray paint were observed. It was reported that painting is very limited. A gray-metal primer was also observed in the (open) back building and it is used only for painting structural steel frames of trailers. Most of the food carts are fabricated with stainless steel sheet product; which is TIG welded and not painted.

During the assessment, no obvious soil-gas pathways into the building's occupied spaces were observed. Moreover, the only occupied and enclosed area was the front offices. The shop areas were essentially un-enclosed, given that the large roll-up doors of the front building appear permanently open and the rear building does not have doors.

In order of quantity, a summary of chemicals and chemical products identified at LA Carts follows:

Estimated Quantity	Chemical	Containers
420-pounds	Propane	Multiple 20-lb & 40-lb Containers
1,400-cuft	Argon	Multiple A/K and B-size bottles
700-cu.ft.	Argon + CO2	Multiple A/K and B-size bottles
5-gal.	Hydraulic oil	Pail
12-pints	Scratch Remover	Pint containers
9-pints	Paste Flux	Pint containers
1-gal	Gray Metal Primer	Gallon container
5-cans	Red Spray Paint	Metal aerosol cans
2-cans	Black Spray Paint	Metal aerosol cans

Medlin & Son – This business cuts and forms sheet metal. The building is approximately 3,000-sq.ft and contains a robotic laser that cuts metal stock, an automated brake for forming/bending sheet stock, and stores of metal stock. The building is typical of stick-frame construction and covered with a plaster/stucco system. There is no ceiling, i.e., it is open to the rafters and there are ridge-vents at the peak. Large roll-up doors open to the loading dock on the north side. Inside the building there is one small office to one side, which according to one operator, is rarely used.

A chemical inventory was taken and no significant VOC-containing chemicals were identified. During the assessment, no obvious soil-gas pathways into the building were observed. Moreover, during the assessment, the operators reported that the large roll-up door is most always open to "let the heat out" and reduce the noise level.

In order of quantity, a summary of chemicals and chemical products identified at Medlin & Sons follows:

Estimated Quantity	Chemical	Containers
9,320-cu.ft.	Oxygen-Ref. Liquid	Two compressed gas cylinders
8,300-cu.ft.	Nitrogen + Oxygen + Hydrogen-Ref. Liquid	Two compressed gas cylinders
7,400-cuft	Nitrogen-Ref. Liquid	Two compressed gas cylinders
5-gal.	Hydraulic oil	Pail

Bishop Co. – This business is a warehouse and retail outlet selling landscaping products and equipment. The building is essentially a concrete panelized tilt-up warehouse, approximately 8,000-sq.ft, with a wood-framed, dome-shaped, roof system; with ridge vents. Appended to the front of the concrete structure is a two-story office space, approximately 1,500-sq.ft., that appears to be built typical of stick-frame construction, sheeted with a stucco system, and a flat roof. The majority of the warehouse is used for product storage, with rows and rows of shelving for product. There is also a small, 800-sq.ft, showroom and office space built into the warehouse that is used for retail sales and equipment display. In the warehouse these is also an equipment repair area in the back, southwest corner. Three package units located on the roof of the office space provide conditioned air to the office space and the showroom/office.

A chemical inventory was taken. Inside the warehouse there are a lot of chemical products, both in quantity and variety, and of different manufacturer; some of which contain volatile chemicals. However, these products are in sealed containers, for retail sale, they are not used on site, and the potential vapor contribution to building IAQ is considered negligible. However, in the small area that is used for equipment repair/service, open containers of gasoline, oil, solvents, greases, etc., were observed under a workbench. Many of these were single containers and many were not

labeled or the labels were worn and illegible. There may have been 10 to 20 small suspect containers – they were not inventoried.

During the assessment, no obvious soil-gas pathways into the building's occupied spaces were observed. Moreover, the only occupied and enclosed areas were the front offices and the office/showroom inside the warehouse. The warehouse area was essentially un-enclosed, given that the two large roll-up doors on either side (north and south) of the building provided significant cross-ventilation, and the four large ridge vents provided additional ventilation. Also of note, there were many rubber and vinyl products that produced a noticeable odor when standing next to these products. Therefore, off-gassing VOCs common to rubber and plastic products, in addition to the stuff located under the workbench, should be anticipated in any IAQ study.

In order of quantity, a summary of chemicals and chemical products identified at Bishop Co. follows:

Estimated Quantity	Chemical	Containers
Many Gallons	2-cyl Bar & Chain Oil	Lots of retail containers- pints, quarts, gallons
18 gallons	WD-40	Lots of retail containers- pints, quarts, gallons
Many Pint Cans	Marker Spray Paint	Lots of cans of aerosol paint
Not Quantified	Gas, gas+oil, solvents, cleaners, etc.	Maintenance bench with numerous small containers used to service on equipment

<u>Oncology Care</u> – This business is essentially an outpatient medical facility, where patients receive oncology treatment. The building is approximately 2,500-sq.ft., and is of modern construction – assumed to be a metal-framed structure with an external-finish, insulated, synthetic-stucco and a flat roof system. The building is divided into many functional spaces, e.g., offices, patient rooms, treatment rooms, reception, and staff areas. Conditioned air is provided to the building via three package units located on the roof, and divided into three zones.

A chemical inventory identified many (i.e., greater than 20) oncology medicines, which according to the duty nurse, are primarily water based, have little to no odor, and no volatiles. All of these products are in sealed containers and kept in temperature-controlled chambers – none of these medications were inventoried. There were bags of water-based solutions also present, e.g., saline solution, also in sealed containers – these also were not inventoried. The only product that had an obvious odor, when used, was isopropyl alcohol (IPA) swabs used for surface disinfecting. Once used, the swabs are placed into open waste baskets, therefore , it is anticipated that IPA would be detected in any IAQ survey. Of particular note were two fume-hoods where oncology medications are mixed into saline solutions. One hood was obviously positively pressurized (the Bio-Vent) to

create a sterile atmosphere inside the hood. The other appeared to be negatively pressurized. Both hoods are vented into the occupied space of the nurse's station.

During the assessment, no obvious soil-gas pathways into the building's occupied spaces were observed. The flooring consisted of vinyl floor tiles that appeared to be in excellent condition and well maintained. Again, it should be noted that this building was of modern, i.e., less than 10-yars, construction. Significant VOCs possibly present in the building appear to be IPA.

In order of quantity, a summary of chemicals and chemical products identified at Oncology Care follows:

Estimated Quantity	Chemical	Containers
Many Swabs	Iso-propyl Alcohol	Lots of packets of swabs
Many Swabs	Povidone-Iodine	Lots of packets of swabs

Records and Report

Field records and logs prepared during the subject assessments are attached.

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KERNTEC appreciates the opportunity to provide this report to CDM for the above-mentioned assessment and chemical inventory. If there are any questions regarding the material herein, please direct them to the undersigned.

Best regards,

Michael Geyer, PE, CIH, CSP
Project Director-President
KERNTEC Industries, Inc.